All

My two AR’s:

1. We need a careful discussion on when package models are Pre-Layout only. (Walter)

2. We need a careful discussion on precedence rules if more than one model can be used to represent interconnect. (Walter)

a. Are you referring to legacy package models together with this new package/interconnect model, or multiple new package/interconnect models?

Pre vs Post Layout Models

· A model is a “Post Layout” model when the I/O terminals can be mapped to specific pin names. The terminals to supply (POWER and GND) pins may explicitly reference specific pin names or POWER and GND signal\_name. Post Layout models. The terminals of Post Layout models may not be referenced by Model\_name or Default.

· A “Pre Layout” model has terminals that have a Terminal ID that is either a Model\_name or Default.

· For an interconnect model to be Post Layout it must explicitly connect specific I/O pin(s) and a specific I/O buffers, and this can only be done using Pin\_name. By connecting the pin of a model\_name to a buffer of a model\_name the connection can be between any pins and buffers where the buffer has that model name, this this would be considered a Pre Layout model. When using the “Default” option on terminals, the connection can be between any pin and its corresponding buffer. This also is considered a Pre Layout model.

Precedence

· The process for choosing a interconnect models is to start with a list of all of the buffers that are being simulated and are in a single component. The EDA tool may choose to pick a different package model for each I/O Pin/Buffer pair, or find a package model for any group of Pin/Buffer pairs. There shall be no specific rule if the EDA choose different combinations of package models that will connect all of the given pins and buffers. Generally it would be preferable to Post Layout instead of Pre Layout interconnect models, and to pick models that include highest percentage of the buffers being simulated. It is generally preferable to choose interconnect models that Post Layout vs Pre Layout, and Model then association by model\_name and finally using Default. There are other tradeoffs such as performance, crosstalk and power distribution that will determine which models to use for specific simulations.

Walter

Walter Katz

wkatz@sisoft.com

Phone 303.449-2308

Mobile 303.335-6156